

NO OF PHASES	: 3	KVA	: 5000
COOLING	: ONAN	VOLTAGE : H.V : V	: 33000
TEMP.RISE OIL/WIDG °C.	: 60/65°C	+5% TO -5% IN STEPS OF 2.5%	
VECTOR GROUP	: Dd0040	L.V : V	: 2x690
TYPE	: OUT DOOR	H.V : A	: 87.47
SPECIFICATION	: IEC : 60076	L.V : A	: 2x2091.84
		FREQUENCY Hz :	: 50

WEIGHTS:

TOTAL WEIGHT : kg

REV	ZONE	DATE	MODIFIED	CHECKED	APPRD

DESIGNED	NAME	DATE
CHOWDAIH		18.01.21
DRAWN	ARAVIND	18.01.21
CHECKED	K.V.K.R	18.01.21
APPROVED	K.V.K.R	18.01.21

TRANSPORT DIMENSIONS	LENGTH	WIDTH	HEIGHT
	2910	1825 (1925 \$)	2515

MINIMUM AIR CLEARANCES	L.V(CLOSED)	H.V@
	60	150
	60	N/A

PHASE-PHASE	PHASE-EARTH
60	60
150	N/A

SCALE: NTS

PRJ.NO. 09406 A

DRG.NO. 3 OG 97755

SHT.NO. 1 OF 2 R 0

TOSHIBA

TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.

DISTRIBUTION TRANSFORMERS DIVISION

OUTLINE GENERAL ARRANGEMENT FOR 5000 KVA, 33/2x0.69 KV HERMETICALLY SEALED TRANSFORMER (COMPLETELY FILLED)

CUSTOMER: RE-TECH OY, FINLAND

240
=224=

TOSHIBA TRANSFORMER

TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.
Rudratam(V), Patancheru(M), Sangareddy(Dt), Telangana-502329, India

TRANSFORMER SPECIFICATION REF.EN(IEC) : 60076-1
THREE PHASE OIL FILLED DISTRIBUTION TRANSFORMER

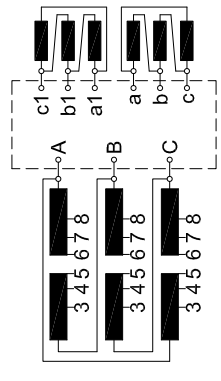
kVA	5000	SERIAL No.	*
VOLTS AT NO LOAD	{ H.V 33000 L.V 2x690	CONDUCTOR: HV/LV	ALUMINIUM
LINE CURRENT AMPERES	{ H.V 87.47 L.V 2x2091.84	FREQUENCY Hz	50
IMPEDANCE VOLTAGE %	{ H.V-L.V 1 * H.V-L.V 2 *	TYPE OF COOLING	ONAN
DATE OF DESPATCH	CRGO	VECTOR GROUP	Dd0d0
CORE MATERIAL	CRGO	CONDUCTOR MASS kg	990
GUARANTEED MAX. TEMPERATURE RISE IN OIL/WDG °C	3 OG 97759	OIL MASS kg	3170
GUARANTEED MAX. NO LOAD LOSSES/LOAD LOSSES kW	3950 / 32400	TOTAL MASS kg	12200
MONTH & YEAR OF MANUFACTURE	*	OUTLINE DRG.NO.	60/65

OIL TYPE : INHIBITED ELECTROL-I AS PER EN(IEC) : 60296

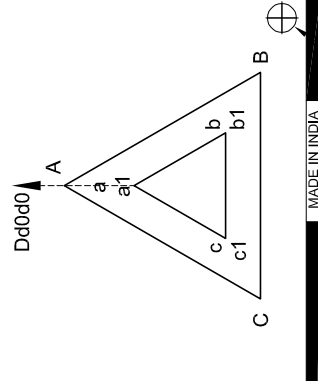
INSULATION LEVEL	
HV	LV
LI (kVp)	170
PF (kV)	70 10

"READ THE INSTRUCTION MANUAL & SAFETY INSTRUCTIONS BEFORE INSTALLATION & CHARGING THIS EQUIPMENT"

3 RP-9776



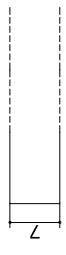
SWITCH POSITION	TAP CHANGER CONNECTIONS	H.V	L.V
1	5-6	34650	069 - 069
2	6-4	33825	
3	4-7	33000	
4	7-3	32175	
5	3-8	31350	



MADE IN INDIA
Ø6-4Nos

NOTE:-

- SERIAL No., ACTUAL IMPEDANCE VOLTAGE(%), DATE OF DESPATCH, MONTH OF MANUFACTURE WILL BE PUNCHED AT THE TIME OF DESPATCH.
- MATERIAL : STAINLESS STEEL, GRADE - 316 CONFORMING TO IS:6911-1992.(SUITABLE FOR -40°C)
- THICKNESS : 20 SWG (0.9 mm).
- PLATE SHALL BE MANUFACTURED BY ETCHING PROCESS.
- ALL LETTERS SHALL BE "ARIAL REGULAR", EXCEPT TOSHIBA LOGO BOX.
- ALL LETTERS FIGURES AND DIVIDING LINES SHALL BE WHITE IN COLOUR ON BLACK BACK GROUND.
- WIDTH OF BOXES FOR PUNCHING SHALL BE 7mm AS SHOWN.
- ALL SHARP EDGES SHALL BE ROUNDED TO SMOOTH SURFACE.



PUNCHING BOX DETAILS

REV	ZONE	DATE	MODIFICATION	CHECKED	APPROVED
				NAME	DATE
			DESIGNED	CHOWDAIH	19.01.20
			DRAWN	ARAVIND	19.01.20
			CHECKED	CHOWDAIH	19.01.20
			APPROVED	CHOWDAIH	19.01.20

TOSHIBA
TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.
DISTRIBUTION TRANSFORMERS DIVISION

SCALE: NTS

RATING & TERMINAL MARKING PLATE FOR 5000 kVA, 33/(2x0.69) kV
COMPLETELY FILLED HERMETICALLY SEALED TRANSFORMER

PRJ.NO. 09406 A
DRG.NO.3 RP 9776
SHT.NO. 1 OF 1 R 0

CUSTOMER : RE-TECH OY,FINLAND

TOSHIBA	Toshiba Transmission & Distribution Systems (India) Pvt. Ltd. Distribution Transformers Division	<i>Engineering</i>
		<i>Unit-10</i>
		Page : 1 of 2

**GUARANTEED TECHNICAL PARTICULARS FOR 5000 kVA, 33/2*0.69 KV
INVERTER DUTY TRANSFORMER**

Sl. No.	Description	UNIT	5000KVA, 33/2*0.69 kV, OCTC
1)	Make		M/s. Toshiba Transmission & Distribution Systems (India) Pvt. Ltd
2)	Type		Hermetically sealed transformer
3)	Phases	No.	Three
4)	Rating	kVA	5000
5)	Voltage:		
	HV	V	33000
	LV	V	2*690
6)	Frequency	Hz	50
7)	Vector Group		Dd0d0
8)	Insulation Level		
	LI(HV/LV)	kV _{Peak}	170/-
	AC(HV/LV)	kV _{RMS}	70/3
9A)	Material of Windings MV		Aluminium
9B)	Material of Windings LV		Aluminium
	Winding Current Density	A/Sqmm	2.2 @ rated tap
	Insulating Material		Class A
10)	Core Material		CRGO
	Flux Density	Tesla	1.72
	Combined over voltage & frequency variation	%	10
11)	Temperature Rises		
	Oil	°C	60
	Winding	°C	65
12)	Tapping's		Off Circuit Tap Changer (-5%, 0, +5%)
13)	Losses		
	No load losses	W	3000(Max)
	Load losses	W	42700(Max)
14)	Impedance Voltage	%	6 (±10% Tol) @ 2.5MVA base
15)	Percentage Resistance	%	
16)	Regulation at:		
	Full Load UPF	%	1.03
	Full Load 0.8 PF	%	4.34
17)	Efficiency at UPF at		
	Full Load	%	99.09
	¾ Full Load	%	99.28
	½ Full Load	%	99.46

TOSHIBA	Toshiba Transmission & Distribution Systems (India) Pvt. Ltd. Distribution Transformers Division	Engineering
		Unit-10
		Page : 2 of 2

**GUARANTEED TECHNICAL PARTICULARS FOR 5000 kVA,33/2*0.69 KV
INVERTER DUTY TRANSFORMER**

18)	Efficiency at 0.8 PF:		
	Full Load	%	98.87
	¾ Full Load	%	99.11
	½ Full Load	%	99.32
	Peak Efficiency Index	%	99.548 @ 26.5% load
19)	Terminal Arrangement:		
	HV		Cable box on Top cover
	LV		Busduct on top cover
20)	Overall Dimensions:		
	Length	mm	Shall be shared during detailed engineering
	Width	mm	
	Height	mm	
21)	Total Weight	Kg.	12200(Approx)
	Oil		ELECTROL – I (as per IEC 60296)

Note: -

1. All weights and dimensions are subjected to ±10% tolerance, except wherever specified as maximum and minimum in GTP and Technical specification.
2. Efficiencies and Regulations are calculated based on the nominal values of No Load Loss, Load Losses and Impedance at 75°C.
3. Min temperature of -40°C is considered.
5. Losses are offered as per EN 50588.
6. Unless and Otherwise specified or mentioned, we offer Indian make components only.
7. Since no. of runs required at LV side are not specified, we are offering busduct arrangement.
8. Partial discharge test is not applicable.
9. As per IEC-60076 , in case of transformer with two or more separate winding section one above the other, if they are of equal size and rating, temperature limit/hotspot is applicable for average of measurement of the stacked sections. Hence winding temperature rise is taken as an average of LV1 and LV2 i.e. while calculating hot spot temperature, gradient calculated based on the average temperature recorded between top and bottom LV windings